

IN THE CLAIMS:

Please cancel Claims 1 through 10 without prejudice to or disclaimer of the subject matter recited therein.

Please add Claims 11 through 124 as follows:

--11. An image-forming optical system which forms an image of an object, said image-forming optical system comprising a prism member,

wherein said prism member has a first surface and a second surface, which face each other across a medium, so that light rays entering said prism member from an object side thereof are reflected at least twice in said prism member,

wherein both said first surface and said second surface are curved surface configurations, and at least one of the curved surface configurations is formed from a rotationally asymmetric curved surface.

12. An image-forming optical system according to Claim 11, wherein said prism member further has a third surface which faces said first surface and second surface across said medium.

13. An image-forming optical system according to Claim 12, wherein said prism member is arranged such that

both said first surface and said second surface have a reflecting action, and said third surface has a transmitting action.

14. An image-forming optical system according to Claim 13, wherein said first surface of said prism member has both a transmitting action and a reflecting action.

15. An image-forming optical system according to Claim 14, wherein said first surface of said prism member is formed from a totally reflecting surface so as to have said transmitting action and reflecting action.

16. An image-forming optical system according to Claim 14, wherein said prism member is arranged such that light from the object enters said prism member by passing through said first surface and is reflected by said second surface and further reflected by said first surface, and the reflected light exits from said prism member by passing through said third surface.

17. An image-forming optical system according to any one of Claims 11 to 16, wherein said rotationally asymmetric curved surface is formed from a configuration having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member.

18. An image-forming optical system according to Claim 17, wherein said second surface is formed from said rotationally asymmetric curved surface.

19. An image-forming optical system according to Claim 17, wherein said first surface is formed from said rotationally asymmetric curved surface.

20. An image-forming optical system according to Claim 17, wherein said third surface is formed from said rotationally asymmetric curved surface.

21. An image-forming optical system according to Claim 17, wherein said prism member is provided with a mirror coating so as to have a reflecting action.

22. An image-forming optical system according to Claim 17, wherein said first surface is formed from a configuration having a concave surface directed toward the object.

23. An image-forming optical system according to Claim 17, wherein said second surface is formed from a configuration having a concave surface directed toward said medium.

24. An image-forming optical system according to Claim 17, wherein a field angle in a horizontal direction of said prism member is different from a field angle in a vertical direction thereof.

25. An image-forming optical system according to Claim 24, wherein the field angle in the horizontal direction of said prism member is larger than the field angle in the vertical direction thereof.

26. An image-forming optical system according to any one of Claims 13 to 16, wherein said first surface is formed from a rotationally asymmetric curved surface having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member, so that light from the object is subjected to said aberration correcting action when passing through said first surface and is also subjected to said aberration correcting action when reflected by said first surface.

27. An ocular optical system arranged to lead an image formed on an image plane to an observer's eyeball, said ocular optical system comprising a prism member,

wherein said prism member has a first surface and a second surface, which face each other across a medium, so

that light rays entering said prism member from an image side thereof are reflected at least twice in said prism member,

wherein both said first surface and said second surface are curved surface configurations, and at least one of the curved surface configurations is formed from a rotationally asymmetric curved surface.

28. An ocular optical system according to Claim 27, wherein said prism member further has a third surface which faces said first surface and second surface across said medium.

29. An ocular optical system according to Claim 28, wherein said prism member is arranged such that both said first surface and said second surface have a reflecting action, and said third surface has a transmitting action.

30. An ocular optical system according to Claim 29, wherein said first surface of said prism member has both a transmitting action and a reflecting action.

31. An ocular optical system according to Claim 30, wherein said prism member is arranged such that light from said image enters said prism member by passing through said third surface and is reflected by said first surface and further reflected by said second surface, and the reflected

light exits from said prism member by passing through said first surface.

32. An ocular optical system according to Claim 30, wherein said first surface of said prism member is formed from a totally reflecting surface so as to have both said transmitting action and reflecting action.

33. An ocular optical system according to any one of Claims 30 to 32, wherein said first surface is formed from a rotationally asymmetric curved surface having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member, so that light from said image is subjected to said aberration correcting action when passing through said first surface and is also subjected to said aberration correcting action when reflected by said first surface.

34. An ocular optical system according to any one of Claims 28 to 30, wherein said rotationally asymmetric curved surface is formed from a configuration having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member.

35. An ocular optical system according to Claim 34, wherein said second surface is formed from said rotationally asymmetric curved surface.

36. An ocular optical system according to Claim 34, wherein said first surface is formed from said rotationally asymmetric curved surface.

37. An ocular optical system according to Claim 34, wherein said third surface is formed from said rotationally asymmetric curved surface.

38. An ocular optical system according to Claim 34, wherein said first surface is formed from a configuration having a concave surface directed toward the observer's eyeball.

39. An ocular optical system according to Claim 34, wherein said second surface is formed from a configuration having a concave surface directed toward said medium.

40. An ocular optical system according to Claim 34, wherein a field angle in a horizontal direction of said prism member is different from a field angle in a vertical direction thereof.

41. An ocular optical system according to Claim 40, wherein the field angle in the horizontal direction of said prism member is larger than the field angle in the vertical direction thereof.

42. An ocular optical system according to Claim 28, wherein said prism member is provided with a mirror coating so as to have a reflecting action.

43. An optical system comprising a prism member, wherein said prism member has two surfaces having a reflecting action to reflect light in said prism member, and two surfaces having a transmitting action to transmit light, and

wherein said prism member has at least one rotationally asymmetric curved surface.

44. An optical system according to Claim 43, wherein said prism member is arranged such that one of said surfaces having a reflecting surface and one of said surfaces having a transmitting action are formed from an identical surface.

45. An optical system comprising a prism member, wherein said prism member has a first surface and a second surface, which face each other across a medium, so that light rays entering said prism member are reflected at least twice in said prism member,

wherein both said first surface and said second surface are curved surface configurations, and at least one of the curved surface configurations is formed from a rotationally asymmetric curved surface.



46. An optical system according to Claim 45, wherein said prism member further has a third surface which faces said first surface and second surface across said medium.

47. An optical system according to Claim 46, wherein said prism member is arranged such that both said first surface and said second surface have a reflecting action, and said third surface has a transmitting action.

48. An optical system according to Claim 47, wherein said first surface of said prism member has both a transmitting action and a reflecting action.

49. An optical system according to Claim 48, wherein said first surface of said prism member is formed from a totally reflecting surface so as to have said transmitting action and reflecting action.

50. An optical system according to Claim 48, wherein said prism member is arranged such that light enters said prism member by passing through said third surface and is reflected by said first surface and further reflected by said second surface, and the reflected light exits from said prism member by passing through said first surface.

51. An optical system according to Claim 48, wherein said prism member is arranged such that light enters said prism member by passing through said first surface and is reflected by said second surface and further reflected by said first surface, and the reflected light exits from said prism member by passing through said third surface.

52. An optical system according to any one of Claims 45 to 51, wherein said rotationally asymmetric curved surface is formed from a configuration having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member.

53. An optical system according to Claim 52, wherein said second surface is formed from said rotationally asymmetric curved surface.

54. An optical system according to Claim 52, wherein said first surface is formed from said rotationally asymmetric curved surface.

55. An optical system according to Claim 52, wherein said third surface is formed from said rotationally asymmetric curved surface.

56. An optical system according to Claim 52, wherein said prism member is provided with a mirror coating so as to have a reflecting action.

57. An optical system according to Claim 52, wherein said first surface is formed from a configuration having a concave surface directed toward the outside of said medium.

58. An optical system according to Claim 52, wherein said second surface is formed from a configuration having a concave surface directed toward said medium.

59. An optical system according to Claim 52, wherein a field angle in a horizontal direction of said prism member is different from a field angle in a vertical direction thereof.

60. An optical system according to Claim 59, wherein the field angle in the horizontal direction of said prism member is larger than the field angle in the vertical direction thereof.

61. An optical system according to any one of Claims 48 to 51, wherein said first surface is formed from a rotationally asymmetric curved surface having an aberration correcting action to correct decentration aberrations caused

by reflection in said prism member, so that light is subjected to said aberration correcting action when passing through said first surface and is also subjected to said aberration correcting action when reflected by said first surface.

62. An optical system according to Claim 46, wherein said prism member is provided with a mirror coating so as to have a reflecting action.

63. An image-forming optical system according to Claim 17, said image-forming optical system further comprising an optical member disposed closer to the object than said prism member.

64. An optical system according to Claim 52, said optical system further comprising an optical member disposed closer to an object than said prism member.

65. An optical system according to Claim 47, wherein said first surface is formed from a rotationally asymmetric curved surface having an aberration correcting action to correct decentration aberrations caused by reflection in said prism member, so that light is subjected to said aberration correcting action when passing through said first surface and is also subjected to said aberration correcting action when reflected by said first surface.

66. An optical system according to Claim 11,  
wherein the medium is acrylic resin or glass.

67. An optical system according to Claim 12,  
wherein the medium is acrylic resin or glass.

68. An optical system according to Claim 13,  
wherein the medium is acrylic resin or glass.

69. An optical system according to Claim 14,  
wherein the medium is acrylic resin or glass.

70. An optical system according to Claim 15,  
wherein the medium is acrylic resin or glass.

71. An optical system according to Claim 16,  
wherein the medium is acrylic resin or glass.

72. An optical system according to Claim 17,  
wherein the medium is acrylic resin or glass.

73. An optical system according to Claim 18,  
wherein the medium is acrylic resin or glass.

74. An optical system according to Claim 19,  
wherein the medium is acrylic resin or glass.

75. An optical system according to Claim 20,  
wherein the medium is acrylic resin or glass.

76. An optical system according to Claim 21,  
wherein the medium is acrylic resin or glass.

77. An optical system according to Claim 22,  
wherein the medium is acrylic resin or glass.

78. An optical system according to Claim 23,  
wherein the medium is acrylic resin or glass.

79. An optical system according to Claim 24,  
wherein the medium is acrylic resin or glass.

80. An optical system according to Claim 25,  
wherein the medium is acrylic resin or glass.

81. An optical system according to Claim 26,  
wherein the medium is acrylic resin or glass.

82. An optical system according to Claim 27,  
wherein the medium is acrylic resin or glass.

83. An optical system according to Claim 28,  
wherein the medium is acrylic resin or glass.

84. An optical system according to Claim 29,  
wherein the medium is acrylic resin or glass.

85. An optical system according to Claim 30,  
wherein the medium is acrylic resin or glass.

86. An optical system according to Claim 31,  
wherein the medium is acrylic resin or glass.

87. An optical system according to Claim 32,  
wherein the medium is acrylic resin or glass.

88. An optical system according to Claim 33,  
wherein the medium is acrylic resin or glass.

89. An optical system according to Claim 34,  
wherein the medium is acrylic resin or glass.

90. An optical system according to Claim 35,  
wherein the medium is acrylic resin or glass.

91. An optical system according to Claim 36,  
wherein the medium is acrylic resin or glass.

92. An optical system according to Claim 37,  
wherein the medium is acrylic resin or glass.

93. An optical system according to Claim 38,  
wherein the medium is acrylic resin or glass.

94. An optical system according to Claim 39,  
wherein the medium is acrylic resin or glass.

95. An optical system according to Claim 40,  
wherein the medium is acrylic resin or glass.

96. An optical system according to Claim 41,  
wherein the medium is acrylic resin or glass.

97. An optical system according to Claim 42,  
wherein the medium is acrylic resin or glass.

98. An optical system according to Claim 43,  
wherein the medium is acrylic resin or glass.

99. An optical system according to Claim 44,  
wherein the medium is acrylic resin or glass.

100. An optical system according to Claim 45,  
wherein the medium is acrylic resin or glass.

101. An optical system according to Claim 46,  
wherein the medium is acrylic resin or glass.



102. An optical system according to Claim 47,  
wherein the medium is acrylic resin or glass.

103. An optical system according to Claim 48,  
wherein the medium is acrylic resin or glass.

104. An optical system according to Claim 49,  
wherein the medium is acrylic resin or glass.

105. An optical system according to Claim 50,  
wherein the medium is acrylic resin or glass.

106. An optical system according to Claim 51,  
wherein the medium is acrylic resin or glass.

107. An optical system according to Claim 52,  
wherein the medium is acrylic resin or glass.

108. An optical system according to Claim 53,  
wherein the medium is acrylic resin or glass.

109. An optical system according to Claim 54,  
wherein the medium is acrylic resin or glass.

110. An optical system according to Claim 55,  
wherein the medium is acrylic resin or glass.

111. An optical system according to Claim 56,  
wherein the medium is acrylic resin or glass.

112. An optical system according to Claim 57,  
wherein the medium is acrylic resin or glass.

113. An optical system according to Claim 58,  
wherein the medium is acrylic resin or glass.

114. An optical system according to Claim 59,  
wherein the medium is acrylic resin or glass.

115. An optical system according to Claim 60,  
wherein the medium is acrylic resin or glass.

116. An optical system according to Claim 61,  
wherein the medium is acrylic resin or glass.

117. An optical system according to Claim 62,  
wherein the medium is acrylic resin or glass.

118. An optical system according to Claim 63,  
wherein the medium is acrylic resin or glass.

119. An optical system according to Claim 64,  
wherein the medium is acrylic resin or glass.

120. An optical system according to Claim 65,  
wherein the medium is acrylic resin or glass.

121. An image-forming optical system according to  
Claim 63, wherein said optical member has two refractive  
surfaces.

122. An optical system according to Claim 64,  
wherein said optical member has two refractive surfaces.

123. An image-forming optical system according to  
Claim 121, wherein the medium is acrylic resin or glass.

124. An optical system according to Claim 122,  
wherein the medium is acrylic resin or glass.--

REMARKS

This is a divisional application of Application No.  
08/959,285 filed October 24, 1997 (the "'285 Application").

Claims 11 through 124 are pending, with Claims 11,  
27, 43, and 45 being independent. Claims 1 through 10 have  
been cancelled without prejudice. Claims 11 through 124 have  
been added. The title has been amended.

The specification has been amended to include  
changes made in parent Application No. 08/959,285.

Applicants claim priority under 35 U.S.C. § 119  
based upon Japanese Priority Application Nos. 6-130301 filed

June 13, 1994, 6-204268 filed August 5, 1994, and 6-336063 filed December 22, 1994, and respectfully request acknowledgment of this claim and of receipt of the certified copies of the priority documents, which were filed September 14, 1995, in the '285 Application.

STATEMENT UNDER 37 CFR 1.607(c)

In accordance with the provisions of 37 CFR 1.607(c), the Examiner is respectfully advised that newly added Claims 11 through 124 have been copied in modified form from Claims 1 through 14, 16, 17, and 22 through 40 of U.S. Patent No. 6,018,423 to Koichi Takahashi (Takahashi '423), issued on January 25, 2000, and assigned to Olympus Optical Co., Ltd. Applicants have copied the claims from Takahashi '423 for the purpose of provoking an interference with that patent. Support for the copied claims and the identification of a proposed count for the interference will be submitted in a separate Request for Interference which will be filed in due course. In the meantime, if the Examiner reaches this case for action prior to receipt of the Request for Interference, the Examiner is requested to telephone the undersigned before acting on the subject application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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